

Leap Frog Game



Play this version of the traditional triangle peg game, and learn some math game theory while you have fun!

Kit contains:

- Game pieces template
- Game board template

You will need: scissors and coloring supplies.



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INSTRUCTIONS

(1) Color the game pieces (and the game board if you want).

(2) Cut out the nine game pieces on the solid lines, and then fold on the dotted lines. They should be able to stand up.



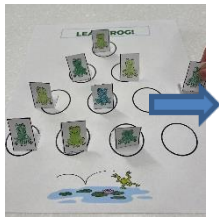
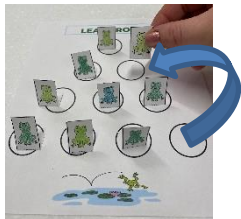
Now you're ready to play!

GAME DIRECTIONS

(1) Put one frog on each space, leaving one space open (you can choose any space except for the middle spot).



(2) Jump a frog over another frog into an open circle. Remove the frog that's been jumped over.



(3) Keep going (jumping frogs to an open circle and removing the jumped-over frog) until there are no more moves.

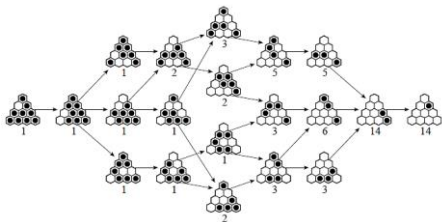


The object of the game is to have as few frogs left as possible. One frog left is the best you can do!

You can play over and over again and always have a different game – leave different circles open, make different moves, etc.

MORE INFORMATION

When you play the Leap Frog Game, you are using mathematical thinking with **algorithms**. An algorithm is a set of steps to solve a problem. Once you make one frog choice, you have new choices, and once you choose one of those, you have more new choices. You choose which steps to take!



A diagram showing all the possible paths if the second circle on the left is open.

MORE MATH CONNECTIONS

Algorithms are used in all types of STEM areas, including computer programming. This game also uses aspects of Game Theory and Group Theory, which are both parts of mathematics.

As you play, observe things like how many frogs are left and where they are on the board (in the middle, or toward the edges). This may lead you to different algorithms next time you play!

BOOKS AND RESOURCES

- *Math Games: Lab for Kids* by Rebecca Rapoport
- *Go Figure!* By Johnny Ball



<http://recmath.org/pegsolitaire/tindex.html>

<https://www.youtube.com/watch?v=c8K2ADPCXUo>

[https://www.gamesforyoungminds.com/blog/
2018/4/13/peg-solitaire](https://www.gamesforyoungminds.com/blog/2018/4/13/peg-solitaire)

[https://www.whatdowedoallday.com/
peg-solitaire-triangle-game/](https://www.whatdowedoallday.com/peg-solitaire-triangle-game/)